

95.6 ± 80.7 to 137.2 ± 87.5 min between the 1st and 8th week ( $P=0.002$ ) in the IG only, with 53.6% of the sample achieving the targeted amount of moderate-intensity PA. During the 8th week, the EE averaged 543.7 ± 144.1 kcal and 266.7 ± 107.4 kcal in the IG and CG, respectively ( $P=0.004$ ).

**Discussion.**— Telephone support based on accelerometric recordings appeared to be an effective strategy to improve the adherence to PA in non-compliant patients. This intervention could be implemented after CRP because it represents an inexpensive, modern and easy-to-use strategy.

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CO43-007-e

### Physical activity barriers in coronary artery disease: Development and validation of a new scale: BAPAC: Barriers to Physical Activity in Coronary heart disease

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**Keywords:** Barriers; Coronary artery disease; Physical activity; Assessment; Questionnaire; Therapeutic education

**Objective.**— To develop a questionnaire measuring perceived barriers regarding the practice of regular physical activity (PA) among coronary patients.

**Methods.**— Twenty-four coronary heart disease patients benefited from a semi-structured interview aiming at determining the “barriers” to PA. After regroupment and reformulation of the answers by 2 experts, the items importance was re-assessed at 15 days (1–5 Lickert scale). The most relevant items were selected by an algorithm. A principal component analysis (PCA) was carried out and the results were compared with those of the literature, in order to evaluate the content validity. Internal consistency was evaluated by Cronbach alpha coefficient.

**Results.**— Thirteen subjects performed the 2 quotations, and 12 items were selected. The questionnaire had a good face validity. The PCA highlighted 4 factors explaining 75% of the original variance. These 4 factors and their items appeared comparable with those reported in the literature, confirming a good content validity. Internal consistency was good (Cronbach  $\alpha=0.75$ ).

**Discussion.**— This work allowed to select 12 relevant items to design the questionnaire. An ongoing prospective study should assess the psychometric properties of the questionnaire (reliability, sensitivity to change, threshold score) to confirm its interest to help design the optimal individual therapeutic education.

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### Effects of transcutaneous electrical nerve stimulation on walking claudication distance in patients with peripheral artery disease

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**Keywords:** Peripheral arterial disease; TENS

**Objective.**— The aim of this study was to verify the favourable effects of Transcutaneous Electrical NeuroStimulation (TENS) on the improvement of training efficiency and patient comfort in peripheral arterial disease (PAD).

**Method.**— Fifteen PAD subjects underwent in a random order four exercise sessions consisting of 5 walking bouts until pain on a treadmill, interspersed by

10 min of recovery. These 4 sessions were preceded by a 10 minute TENS session with different modalities: 80 Hz, 10 Hz, SHAM TENS (presence of electrodes without stimulation) or control (no electrodes). Patients had no feedback concerning the walking distance achieved.

**Results.**— Walking claudication distance for the 5 bouts was significantly different between T10, T80, SHAM and CON ( $P<0.0003$ ): 2944 ± 1323, 2628 ± 1290, 2299 ± 1101 and 1390 ± 335 meters, respectively. No difference was observed between T10 and T80 but T10 was different from SHAM and CON. SHAM, T10 and T80 were all different from CON ( $P<0.001$ ). No difference was observed in heart rate and blood pressure between each condition.

**Discussion.**— TENS seems to be an innovative tool to improve walking claudication distance in class II PAD patient, with superior efficacy of TENS 10 Hz. This non-pharmacological strategy deserves further investigations in those patients.

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### Does rehabilitation for lymphedema improve function?

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**Keywords:** Lymphedema; Rehabilitation; Functional test

**Objective.**— The effectiveness of rehabilitation to reduce the volume of the limb in lymphedema is now demonstrated. The effect on the function remains to be investigated. This is the aim of this pilot study.

**Methods.**— Prospective study including 56 patients (age 61.7 years) enrolled in an intensive program (1 to 2 weeks, 5 hours/day) of rehabilitation for lymphedema (37 lower and 19 upper limbs) combining manual lymph drainages, multilayered bandaging, physical exercises and education. The primary outcome measure was the function of the limb evaluated by the number of specific movements realized in 30 seconds. Secondary outcomes were the limb circumferences and the passive motion of the knee or the elbow.

**Results.**— This study confirms the decrease of the circumferences ( $2.5 \pm 1.6$  cm;  $P<0.01$ ), specifies the gain of passive motion ( $7.9 \pm 6.9^\circ$ ;  $P<0.01$ ) and reveals a functional improvement ( $7.5 \pm 7$  movements;  $P<0.01$ ).

**Discussion.**— The intensive rehabilitation of lymphedema seems to improve function. This result has to be confirmed by a randomized clinical trial with ecological assessment of function and assessment of quality of life.

**Further reading**

Fialka-Moser V, et al. The role of physical and rehabilitation medicine specialist in lymphoedema. *Ann Phys Rehabil Med* 2013;56:396–410.

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## Posters

P291-e

### Six-minute walk test: An effective and necessary stress test in modern cardiac rehabilitation

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**Keywords:** Functional capacity; High-intensity aerobic interval training; Moderate intensive continuous training

**Background.**— The six-minute walk test (6MWT) is a widely used stress test for measuring the effectiveness of cardiac rehabilitation interventions (CR) in heart patients.

**Material and methods.**— Included individuals in our study ( $n=75$ ) were randomized into two CR groups. The HIAIT group consisted of 37 participants ( $n=37$ ) and the MICT group of 38 ( $n=38$ ). Both CR groups performed the 6MWT in 30 m hospital corridor.